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<110> Max-Planck-Gesellschaft zur Förderung der Wissensc

5 <120> A new Assay to Detect Substances Useful for the Therapy
of Cancer and Infectious Diseases

<130> GI-003 PCT

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<150> EP 99 118 385.6

<151> 1999-09-16

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<170> PatentIn Ver. 2.1

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30 Ala Phe Asn Leu Arg Gly Gln Ser Pro Leu His Ile Leu Gly Gln Tyr
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Pro Gly Tyr Pro Leu Asp Lys Pro Asp Ala Asp Gly Ser Thr Val Leu
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40 Lys Ser Leu Val Gln Lys Ala Lys Lys Ala Lys Asp Arg Leu Leu Lys
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Ala Gly Glu Thr Thr Tyr Ser Leu Glu His Ala Ser Asp Leu Arg Val
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	Arg Thr Arg Ser Leu Asp Phe Arg Glu Ile Gly Pro Phe Gln Leu Glu	
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Pro Ser Arg Glu Pro Arg Thr His Leu Ala Tyr Ala Leu Asp Leu Gly
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Ser Ser Pro Val Pro Ser Ser Thr Ala Pro Lys Thr Pro Ser Leu Ser
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Ser Thr Gln Pro Thr Arg Val Trp Ser Gly Pro Pro Ala Val Gly Gln
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Glu Arg Leu Pro Gln Ser Ser Met Pro Gln Gln His Glu Gly Pro Ser
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Thr Thr Gly Pro Pro Ala Ala Gly Val Ser Leu Asp Pro Ser Ala Arg
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 20 660 665 670

Ala Val Ala Gly Asn Pro Phe Ile Gln Pro Asp Ser Pro Ala Pro Asn
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Leu Val Pro Gly Asn Pro Phe Glu Glu Pro Thr Cys Ile Asn Pro Phe
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Glu Leu Leu Leu Gln Gln Ile Asp Asn Ile Lys Ala Tyr Ile Phe Asp
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Lys Phe Pro Val Gln Glu Asn Ala Ser His Leu His Gly Arg Leu Met
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Leu Leu His Ser Leu Pro Cys Phe Ile Glu Lys Asp Leu Lys Glu Ala
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10 Leu Thr Gln Phe Ile Glu Glu Glu Ser Leu Ser Asp Tyr Asp Arg Asp
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Ala Glu Ala Ser Leu Ala Ala Val Lys Ser Gly Glu Val Asp Leu His
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15 Gln Leu Ala Ser Thr Trp Ala Lys Ala Tyr Ala Glu Thr Thr Leu Glu
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His Ala Arg Pro Glu Glu Pro Ser Trp Asp Glu Asp Phe Ala Asp Val
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Tyr His Asp Leu Ile His Ser Pro Ala Ser Glu Thr Leu Leu Asn Leu
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Val Glu Leu Lys Lys Leu Arg Glu Arg Gln Gly Ile Glu Met Glu Lys
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30 Val Met Gln Glu Leu Gly Lys Ser Leu Thr Asp Gln Asp Val Asn Ser
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Tyr Ser Thr Ser Leu Cys Gly Leu Val Leu Leu Val Asp Asn Arg Ile
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Glu Met Thr Ile Pro Trp Cys Leu Arg Arg Ala Glu Leu Val Phe Lys
 485 490 495

Cys Val Lys Gly Phe Met Met Glu Met Ala Ser Trp Asp Gly Gly Ile
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Ser Arg Thr Val Gln Phe Leu Val Pro Gln Ser Ile Ser Glu Glu Met
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Glu Ile Ala Gly Ile Val Leu Asp Val Gly Ser Lys Val Ser Phe Phe
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Gln Pro Asp Asp Glu Val Val Gly Ile Leu Pro Leu Asp Ser Glu Asp
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20 Pro Gly Leu Cys Glu Val Val Arg Val His Glu His Tyr Leu Val His
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Lys Pro Glu Lys Val Thr Trp Thr Glu Ala Ala Gly Ser Ile Arg Asp
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25 Gly Val Arg Ala Tyr Thr Ala Leu His Tyr Leu Ser His Leu Ser Pro
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Gly Lys Ser Val Leu Ile Met Asp Gly Ala Ser Ala Phe Gly Thr Ile
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35 Cys Ser Leu Glu Asp Lys Gln Cys Leu Glu Arg Phe Arg Pro Pro Ile
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Ala Arg Val Ile Asp Val Ser Asn Gly Lys Val His Val Ala Glu Ser
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40 Cys Leu Glu Glu Thr Gly Gly Leu Gly Val Asp Ile Val Leu Asp Ala
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Gly Val Arg Leu Tyr Ser Lys Asp Asp Glu Pro Ala Val Lys Leu Gln
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Leu Leu Pro His Lys His Asp Ile Ile Thr Leu Leu Gly Val Gly Gly
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His Trp Val Thr Thr Glu Glu Asn Leu Gln Leu Asp Pro Pro Asp Ser
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10 His Cys Leu Phe Leu Lys Gly Ala Thr Leu Ala Phe Leu Asn Asp Glu
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Val Trp Asn Leu Ser Asn Val Gln Gln Gly Lys Tyr Leu Cys Ile Leu
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15 Lys Asp Val Met Glu Lys Leu Ser Thr Gly Val Phe Arg Pro Gln Leu
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Lys Ala Met Glu Phe Val Asp Val Thr Glu Ser Asn Ala Arg Trp Val
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Ile Asp Gly Ala Arg Tyr His Ala Leu Leu Ile Pro Ser Cys Pro Gly
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25 Ala Leu Thr Asp Leu Ala Ser Ser Gly Ser Leu Ala Arg Ile Leu Gln
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His Phe His Ser Glu Ser Lys Pro Ile Cys Ala Val Gly His Gly Val
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30

Ala Ala Leu Cys Cys Ala Thr Asn Glu Asp Arg Ser Trp Val Phe Asp
130 135 140

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145 150 155 160

Gly Phe Ala Arg Leu Pro Leu Val Val Glu Asp Phe Val Lys Asp Ser
165 170 175

40 Gly Ala Cys Phe Ser Gly Leu Gly Ala Ala Pro Gly Trp Gly Arg Gly
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15 <211> 892

<212> PRT

<213> Homo sapiens

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Ser Ala Leu Pro His Asp Val Cys Gly Ser Asn Gly Leu Pro Leu Thr
 20 25 30

25 Pro Asn Ser Ile Lys Ile Leu Gly Arg Phe Gln Ile Leu Lys Thr Ile
 35 40 45

30 Thr His Pro Arg Leu Cys Gln Tyr Val Asp Ile Ser Arg Gly Lys His
 50 55 60

Glu Arg Leu Val Val Val Ala Glu His Cys Glu Arg Ser Leu Glu Asp
 65 70 75 80

35 Leu Leu Arg Glu Arg Lys Pro Val Ser Cys Ser Thr Val Leu Cys Ile
 85 90 95

Ala Phe Glu Val Leu Gln Gly Leu Gln Tyr Met Asn Lys His Gly Ile
 100 105 110

40 Val His Arg Ala Leu Ser Pro His Asn Ile Leu Leu Asp Arg Lys Gly
 115 120 125

His Ile Lys Leu Ala Lys Phe Gly Leu Tyr His Met Thr Ala His Gly
 130 135 140

Asp Asp Val Asp Phe Pro Ile Gly Tyr Pro Ser Tyr Leu Ala Pro Glu
 5 145 150 155 160

Val Ile Ala Gln Gly Ile Phe Lys Thr Thr Asp His Met Pro Ser Lys
 165 170 175

10 Lys Pro Leu Pro Ser Gly Pro Lys Ser Asp Val Trp Ser Leu Gly Ile
 180 185 190

Ile Leu Phe Glu Leu Cys Val Gly Arg Lys Leu Phe Gln Ser Leu Asp
 195 200 205

15 Ile Ser Glu Arg Leu Lys Phe Leu Leu Thr Leu Asp Cys Val Asp Asp
 210 215 220

Thr Leu Ile Val Leu Ala Glu Glu His Gly Cys Leu Asp Ile Ile Lys
 20 225 230 235 240

Glu Leu Pro Glu Thr Val Ile Asp Leu Leu Asn Lys Cys Leu Thr Phe
 245 250 255

25 His Pro Ser Lys Arg Pro Thr Pro Asp Glu Leu Met Lys Asp Lys Val
 260 265 270

Phe Ser Glu Val Ser Pro Leu Tyr Thr Pro Phe Thr Lys Pro Ala Ser
 275 280 285

30 Leu Phe Ser Ser Ser Leu Arg Cys Ala Asp Leu Thr Leu Pro Glu Asp
 290 295 300

Ile Ser Gln Leu Cys Lys Asp Ile Asn Asn Asp Tyr Leu Ala Glu Arg
 35 305 310 315 320

Ser Ile Glu Glu Val Tyr Tyr Leu Trp Cys Leu Ala Gly Gly Asp Leu
 325 330 335

40 Glu Lys Glu Leu Val Asn Lys Glu Ile Ile Arg Ser Lys Pro Pro Ile
 340 345 350

Cys Thr Leu Pro Asn Phe Leu Phe Glu Asp Gly Glu Ser Phe Gly Gln
 355 360 365

	Gly Arg Asp Arg Ser Ser Leu Leu Asp Asp Thr Thr Val Thr Leu Ser	
	370	380
	Leu Cys Gln Leu Arg Asn Arg Leu Lys Asp Val Gly Gly Glu Ala Phe	
5	385	400
	Tyr Pro Leu Leu Glu Asp Asp Gln Ser Asn Leu Pro His Ser Asn Ser	
	405	415
10	Asn Asn Glu Leu Ser Ala Ala Ala Met Leu Pro Leu Ile Ile Arg Glu	
	420	430
	Lys Asp Thr Glu Tyr Gln Leu Asn Arg Ile Ile Leu Phe Asp Arg Leu	
15	435	445
	Lys Ala Tyr Pro Tyr Lys Lys Asn Gln Ile Trp Lys Glu Ala Arg Val	
	450	460
	Asp Ile Pro Pro Leu Met Arg Gly Leu Thr Trp Ala Ala Leu Leu Gly	
20	465	480
	Val Glu Gly Ala Ile His Ala Lys Tyr Asp Ala Ile Asp Lys Asp Thr	
	485	495
25	Pro Ile Pro Thr Asp Arg Gln Ile Glu Val Asp Ile Pro Arg Cys His	
	500	510
	Gln Tyr Asp Glu Leu Leu Ser Ser Pro Glu Gly His Ala Lys Phe Arg	
30	515	525
	Arg Val Leu Lys Ala Trp Val Val Ser His Pro Asp Leu Val Tyr Trp	
	530	540
	Gln Gly Leu Asp Ser Leu Cys Ala Pro Phe Leu Tyr Leu Asn Phe Asn	
35	545	560
	Asn Glu Ala Leu Ala Tyr Ala Cys Met Ser Ala Phe Ile Pro Lys Tyr	
	565	575
40	Leu Tyr Asn Phe Phe Leu Lys Asp Asn Ser His Val Ile Gln Glu Tyr	
	580	590
	Leu Thr Val Phe Ser Gln Met Ile Ala Phe His Asp Pro Glu Leu Ser	
	595	605

Asn His Leu Asn Gln Ile Gly Phe Ile Pro Asp Leu Tyr Ala Ile Pro
610 615 620

Trp Phe Leu Thr Met Phe Thr His Val Phe Pro Leu His Lys Ile Phe
5 625 630 635 640

His Leu Trp Asp Thr Leu Leu Leu Gly Asn Ser Ser Phe Pro Phe Cys
645 650 655

10 Ile Gly Val Ala Ile Leu Gln Gln Leu Arg Asp Arg Leu Leu Ala Asn
660 665 670

Gly Phe Asn Glu Cys Ile Leu Leu Phe Ser Asp Leu Pro Glu Ile Asp
675 680 685

15 Ile Glu Arg Cys Val Arg Glu Ser Ile Asn Leu Phe Cys Trp Thr Pro
690 695 700

Lys Ser Ala Thr Tyr Arg Gln His Ala Gln Pro Pro Lys Pro Ser Ser
20 705 710 715 720

Asp Ser Ser Gly Gly Arg Ser Ser Ala Pro Tyr Phe Ser Ala Glu Cys
725 730 735

25 Pro Asp Pro Pro Lys Thr Asp Leu Ser Arg Glu Ser Ile Pro Leu Asn
740 745 750

Asp Leu Lys Ser Glu Val Ser Pro Arg Ile Ser Ala Glu Asp Leu Ile
755 760 765

30 Asp Leu Cys Glu Leu Thr Val Thr Gly His Phe Lys Thr Pro Ser Lys
770 775 780

Lys Thr Lys Ser Ser Lys Pro Lys Leu Leu Val Val Asp Ile Leu Asn
35 785 790 795 800

Ser Glu Asp Phe Ile Arg Gly His Ile Ser Gly Ser Ile Asn Ile Pro
805 810 815

40 Phe Ser Ala Ala Phe Thr Ala Glu Gly Glu Leu Thr Gln Gly Pro Tyr
820 825 830

Thr Ala Met Leu Gln Asn Phe Lys Gly Lys Val Ile Val Ile Val Gly
835 840 845

His Val Ala Lys His Thr Ala Glu Phe Ala Ala His Leu Val Lys Met
 850 855 860

Lys Tyr Pro Arg Ile Cys Ile Leu Asp Gly Gly Ile Asn Lys Ile Lys
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Pro Thr Gly Leu Leu Thr Ile Pro Ser Pro Gln Ile
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<212> DNA

<213> Homo sapiens

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 gctctcaatg ttcccttgca caataggcga caccagctga agatgcgaga tatagctggg 180
 20 caggccctgg cttttgttca ggatcttgta cgggctcttc tgaactttca cacctataca 240
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 cagaagttct cccaatacct tcatgaaaac gcacgcgtatg tccgccccct tgaggaagga 360
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Arg Leu Glu Glu Ser Leu Ser Ile Ile Asn Glu Lys Val Pro Phe Asn
15 20 25 30

Asp Thr Lys Cys His Leu Tyr Asn Ala Leu Asn Val Pro Leu His Asn
35 40 45

20 Arg Arg His Gln Leu Lys Met Arg Asp Ile Ala Gly Gln Ala Leu Ala
50 55 60

Phe Val Gln Asp Leu Val Pro Ala Leu Leu Asn Phe His Thr Tyr Thr
65 70 75 80

25 Glu Gln Arg Ile Gln Ile Phe Pro Val Asp Ser Ala Ile Asp Thr Ile
85 90 95

Ser Pro Leu Asn Gln Lys Phe Ser Gln Tyr Leu His Glu Asn Ala Ser
30 100 105 110

Tyr Val Arg Pro Leu Glu Glu Gly Met Leu His Leu Phe Glu Ser Ile
115 120 125

35 Thr Glu Asp Thr Val Thr Val Leu Glu Thr Thr Val Lys Leu Lys Met
130 135 140

Phe Ser Asp His Leu Thr Ser Tyr Val Arg Phe Leu Arg Lys Ile Leu
145 150 155 160

40 Pro Tyr Gln Leu Lys Ser Leu Glu Glu Glu Cys Glu Ser Ser Leu Cys
165 170 175

Thr Pro Ala Leu Arg Ala Arg Asn Leu Glu Leu Ser Gln Asp Met Lys
 180 185 190

Thr Met Thr Ala Val Phe Glu Lys Leu Gln Thr Tyr Val Thr Leu Leu
 195 200 205

Ala Leu Pro Ser Thr Glu Pro Asp Gly Leu Leu Arg Thr Asn Tyr Thr
 210 215 220

10 Ser Val Leu Thr Asn Val Gly Ala Ala Leu His Gly Phe His Asp Val
 225 230 235 240

Met Lys Asp Ile Ser Lys His Tyr Ser Gln Lys Ala Ser Ile Glu His
 245 250 255

15 Glu Ile Pro Thr Ala Thr Gln Lys Leu Val Thr Thr Asn Asp Cys Ile
 260 265 270

20 Leu Ser Ser Ala Val Thr Leu Thr Asn Gly Ala Gly Lys Ile Ala Ser
 275 280 285

Phe Phe Gly Asn Asn Val Asp Tyr Phe Ile Ala Ser Leu Ser Tyr Gly
 290 295 300

25 Pro Lys Thr Ala Ser Gly Phe Ile Ser Pro Leu Ser Ala Glu Cys Met
 305 310 315 320

Leu Gln Tyr Lys Lys Lys Ala Ala Ala Tyr Met Lys Ser Leu Arg Thr
 325 330 335

30 Pro Leu Ala Glu Ser Val Pro Tyr Gly Glu Ala Val Ala Asn Arg Arg
 340 345 350

35 Val Leu Leu Ser Ser Thr Glu Ser Arg Glu Gly Leu Ala Gln Gln Val
 355 360 365

Gln Gln Ser Leu Glu Lys Ile Ser Lys Leu Glu Gln Glu Lys Glu His
 370 375 380

40 Trp Met Leu Glu Ala Gln Leu Ala Lys Ile Lys Leu Glu Lys Glu Asn
 385 390 395 400

Gln Arg Ile Ala Asp Arg Leu Arg Gly Thr Thr Ser Ala Gln Leu Pro
 405 410 415

Gly Leu Ala Gln Glu Asn Ala Thr Val Pro Ile Ala Ser Ser Gln Glu
420 425 430

5 Glu Ala Ala Ala Lys Val Leu Thr Glu Pro Val Gln Ser Thr Ser Leu
435 440 445

Val Gly Met Leu Thr Arg Thr Pro Asp Ser Glu Ala Pro Asp Val Glu
450 455 460

10 Ser Arg Glu Asp Leu Ile Lys Ser His Tyr Met Ala Arg Ile Ala Glu
465 470 475 480

Leu Thr Ser Gln Leu Gln Leu Ala Asp Ser Lys Ser Val His Phe Tyr
485 490 495

15 Ala Glu Cys Arg Ala Leu Ser Lys Arg Leu Ala Leu Ala Glu Lys Ser
500 505 510

20 Lys Glu Thr Leu Thr Glu Glu Met Arg Leu Ala Ser Gln Asn Ile Ser
515 520 525

Arg Leu Gln Asp Glu Leu Met Thr Thr Lys Arg Ser Tyr Glu Asp Gln
530 535 540

25 Leu Ser Met Met Ser Asp His Leu Cys Ser Met Asn Glu Thr Leu Ser
545 550 555 560

Lys Gln Arg Glu Glu Ile Asp Thr Leu Lys Met Ala Ser Lys Gly Asn
565 570 575

30 Ser Lys Lys Thr Arg Asn Arg
580

35